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#2

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/905,243

DATE: 12/03/2001
TIME: 11:52:03

Input Set : N:\Crf3\RULE60\09905243.txt
Output Set: N:\CRF3\12032001\I905243.raw

<110> APPLICANT: Taylor, Alexander H
<120> TITLE OF INVENTION: Monoclonal Antibodies with Reduced Immunogenicity
<130> FILE REFERENCE: P50770
<140> CURRENT APPLICATION NUMBER: 09/905,243
<141> CURRENT FILING DATE: 2001-07-16
<150> PRIOR APPLICATION NUMBER: 09/300,970
<151> PRIOR FILING DATE: 1999-04-28
<160> NUMBER OF SEQ ID NOS: 97
<170> SOFTWARE: FastSEQ for Windows Version 3.0

ENTERED

<210> SEQ ID NO: 1
<211> LENGTH: 429
<212> TYPE: DNA
<213> ORGANISM: Pan troglodytes
<220> FEATURE:
<221> NAME/KEY: CDS
<222> LOCATION: (1)...(429)
<400> SEQUENCE: 1

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atg aaa cac ctg tgg ttc ttc ctc ctg ctg gtg gca gct ccc aga tgg       48
Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
 1               5                  10                  15

gtc ctg tcc cag gtg cag ttg cag gag tcg ggc cca gga ctg gtg aag       96
Val Leu Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys
            20                  25                  30

cct tca cag acc ttg tcc ctg acc tgc gct gtg tct ggt ggc tcc atc      144
Pro Ser Gln Thr Leu Ser Leu Thr Cys Ala Val Ser Gly Gly Ser Ile
        35                  40                  45

act agt gct tac tac tat tgg agc tgg atc cgc cag tca cca ggg aag      192
Thr Ser Ala Tyr Tyr Tyr Trp Ser Trp Ile Arg Gln Ser Pro Gly Lys
    50                  55                  60

gga ctg gag tgg att ggg agt atc tat tat agt ggg acc att ttc tcc      240
Gly Leu Glu Trp Ile Gly Ser Ile Tyr Tyr Ser Gly Thr Ile Phe Ser
65                  70                  75                  80

aac cca tcc ctc aag agt cga gtc gcc atg tca gta ggc acg tcc aag      288
Asn Pro Ser Leu Lys Ser Arg Val Ala Met Ser Val Gly Thr Ser Lys
                85                  90                  95

acc cag ttc tcc ctg agc ttg agt tct gtg acc gcc gcg gac acg gcc      336
Thr Gln Phe Ser Leu Ser Leu Ser Ser Val Thr Ala Ala Asp Thr Ala
            100                 105                 110

gtg tac tac tgt gcg aga ggt ctg ctc ctc acc att gga ctg acc aac      384
Val Tyr Tyr Cys Ala Arg Gly Leu Leu Leu Thr Ile Gly Leu Thr Asn
        115                 120                 125

tac tac ttt gac tac tgg ggc ccg gga acc ctg gtc acc gtc ttc          429
Tyr Tyr Phe Asp Tyr Trp Gly Pro Gly Thr Leu Val Thr Val Phe
    130                 135                 140
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<210> SEQ ID NO: 2
<211> LENGTH: 414

RAW SEQUENCE LISTING DATE: 12/03/2001
PATENT APPLICATION: US/09/905,243 TIME: 11:52:03

Input Set : N:\Crf3\RULE60\09905243.txt
Output Set: N:\CRF3\12032001\I905243.raw

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70 <212> TYPE: DNA
71 <213> ORGANISM: Pan troglodytes
73 <220> FEATURE:
74 <221> NAME/KEY: CDS
75 <222> LOCATION: (1)...(414)
77 <400> SEQUENCE: 2
78  atg aaa cac ctg tgg ttc ttc ctc ctg ctg gtg gca gct ccc aga tgg       48
79  Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
80   1               5                  10                  15
82  gtc ctg tcc cag gtg cag cta cag gag tcg ggc cca gga cta gtg aag       96
83  Val Leu Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys
84              20                  25                  30
86  ccg tca cag acc ctg tcc ctc acc tgc ggt gtc tct ggt gcc tcc atc      144
87  Pro Ser Gln Thr Leu Ser Leu Thr Cys Gly Val Ser Gly Ala Ser Ile
88          35                  40                  45
90  aat agt ggt gtt cat tac tgg gcc tgg ata cgc cag cct gca gga aag      192
91  Asn Ser Gly Val His Tyr Trp Ala Trp Ile Arg Gln Pro Ala Gly Lys
92      50                  55                  60
94  gga ctg gag tgg att ggc aat atc tat cat agt ggg agc gcc tac tac      240
95  Gly Leu Glu Trp Ile Gly Asn Ile Tyr His Ser Gly Ser Ala Tyr Tyr
96   65                  70                  75                  80
98  act cca tcc ctc gag agt cga gtc tcc atg tca ata gag acg tcc aag      288
99  Thr Pro Ser Leu Glu Ser Arg Val Ser Met Ser Ile Glu Thr Ser Lys
100                 85                  90                  95
102  agc cag ttc ttc cta aac tta aat tct ctg acc gcc gcg gac acg gct      336
103  Ser Gln Phe Phe Leu Asn Leu Asn Ser Leu Thr Ala Ala Asp Thr Ala
104             100                 105                 110
106  atc tat tat tgt gcg aga cga cat act tcg tca gac tac ttt gac ttt      384
107  Ile Tyr Tyr Cys Ala Arg Arg His Thr Ser Ser Asp Tyr Phe Asp Phe
108         115                 120                 125
110  tgg ggc cgc gga atc ctg gtc atc gtc tcc                             414
111  Trp Gly Arg Gly Ile Leu Val Ile Val Ser
112     130                 135
115 <210> SEQ ID NO: 3
116 <211> LENGTH: 427
117 <212> TYPE: DNA
118 <213> ORGANISM: Pan troglodytes
120 <220> FEATURE:
121 <221> NAME/KEY: CDS
122 <222> LOCATION: (1)...(427)
124 <400> SEQUENCE: 3
125  atg ggg tca acc gcc atc ctc gcc ctc ctc ctg gct gtt ctc gaa gga       48
126  Met Gly Ser Thr Ala Ile Leu Ala Leu Leu Leu Ala Val Leu Glu Gly
127   1               5                  10                  15
129  gtc cgt gca gac gtg cag ctg gtg cag tcc gga gca gag gtg aaa aag       96
130  Val Arg Ala Asp Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
131             20                  25                  30
133  ccc ggg gag tct ctg aag atc tcc tgt aag gtc tct gga aat gaa ttt      144
134  Pro Gly Glu Ser Leu Lys Ile Ser Cys Lys Val Ser Gly Asn Glu Phe
```

RAW SEQUENCE LISTING DATE: 12/03/2001
PATENT APPLICATION: US/09/905,243 TIME: 11:52:03

Input Set : N:\Crf3\RULE60\09905243.txt
Output Set: N:\CRF3\12032001\I905243.raw

```
135           35                  40                  45
137  acc aac tac tgg atc gcc tgg gtg cgc cag atg tcc ggg aaa ggc ctg      192
138  Thr Asn Tyr Trp Ile Ala Trp Val Arg Gln Met Ser Gly Lys Gly Leu
139       50                  55                  60
141  gag tgg atg ggg agc atc tat cct ggt gac tct gat acc aga tac aac      240
142  Glu Trp Met Gly Ser Ile Tyr Pro Gly Asp Ser Asp Thr Arg Tyr Asn
143   65                  70                  75                  80
145  ccg tcc ttc caa ggc caa gtc acc ttt tca gcc gac aag tcc atc acc      288
146  Pro Ser Phe Gln Gly Gln Val Thr Phe Ser Ala Asp Lys Ser Ile Thr
147                   85                  90                  95
149  acc gcc tat ttg cag tgg agt agt ctg gag gcc tcg gac acc gcc atg      336
150  Thr Ala Tyr Leu Gln Trp Ser Ser Leu Glu Ala Ser Asp Thr Ala Met
151              100                 105                 110
153  tac tac tgt gcg agc cga aat cac ttt gtt ttc ggg gaa gtt att act      384
154  Tyr Tyr Cys Ala Ser Arg Asn His Phe Val Phe Gly Glu Val Ile Thr
155           115                 120                 125
157  act ttg acg gct ggg gcc agg gaa acc ctg ggt cac cgt ctc c           427
158  Thr Leu Thr Ala Gly Ala Arg Glu Thr Leu Gly His Arg Leu
159       130                 135                 140
162 <210> SEQ ID NO: 4
163 <211> LENGTH: 402
164 <212> TYPE: DNA
165 <213> ORGANISM: Pan troglodytes
167 <220> FEATURE:
168 <221> NAME/KEY: CDS
169 <222> LOCATION: (1)...(402)
171 <400> SEQUENCE: 4
172  ttg ggg ctc cgc tgg gtt ttc ctt gtt gct ttt tta gaa ggt gtc cag       48
173  Leu Gly Leu Arg Trp Val Phe Leu Val Ala Phe Leu Glu Gly Val Gln
174   1               5                  10                  15
176  tgt gag gta cag ctg gtg gag tct ggg gga ggc ttg gta cag cct ggg       96
177  Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly
178              20                  25                  30
180  ggg tcc ttg aca ctc tcc tgt gca gcc tct gga ttc acc ttc agt agg      144
181  Gly Ser Leu Thr Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Arg
182           35                  40                  45
184  agt ggc atg cac tgg gtc cgc cag gct cca ggg aag gga ctg ggg tgg      192
185  Ser Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Gly Trp
186       50                  55                  60
188  ctt gca tac att gat tat ggc agt att ttc ata tac tac tcg gac tca      240
189  Leu Ala Tyr Ile Asp Tyr Gly Ser Ile Phe Ile Tyr Tyr Ser Asp Ser
190   65                  70                  75                  80
192  gtg aag ggc cgc ttc acc atc tcc aga gac aac gcc aag aat tca ctc      288
193  Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu
194                   85                  90                  95
196  tat ctg caa atg aac agc ctg aga gcc gac gac acg gct ttt tat tac      336
197  Tyr Leu Gln Met Asn Ser Leu Arg Ala Asp Asp Thr Ala Phe Tyr Tyr
198              100                 105                 110
200  tgt acg acc cat aat tgg ggg gag tta act gac tac tgg ggc cag gga      384
```

RAW SEQUENCE LISTING DATE: 12/03/2001
PATENT APPLICATION: US/09/905,243 TIME: 11:52:03

Input Set : N:\Crf3\RULE60\09905243.txt
Output Set: N:\CRF3\12032001\I905243.raw

```
Cys Thr Thr His Asn Trp Gly Glu Leu Thr Asp Tyr Trp Gly Gln Gly
    115                 120                 125
acc ctg gtc acc gtc tcc                                          402
Thr Leu Val Thr Val Ser
    130
<210> SEQ ID NO: 5
<211> LENGTH: 408
<212> TYPE: DNA
<213> ORGANISM: Pan troglodytes
<220> FEATURE:
<221> NAME/KEY: CDS
<222> LOCATION: (1)...(408)
<400> SEQUENCE: 5
atg gaa ttg ggg ctc cgc tgg gtt ttc ctt gtt gct ttt tta gaa ggt    48
Met Glu Leu Gly Leu Arg Trp Val Phe Leu Val Ala Phe Leu Glu Gly
 1               5                  10                  15
gtc cag tgt gag gta cag ctg gtg gag tct ggg gga ggc ttg gta cag    96
Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
            20                  25                  30
cct ggg ggg tcc ttg aca ctc tcc tgt gca gcc tct gga ttc acc ttc   144
Pro Gly Gly Ser Leu Thr Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
        35                  40                  45
agt agg agt ggc atg cac tgg gtc cgc cag gct cca ggg aag gga ctg   192
Ser Arg Ser Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
    50                  55                  60
gag tgg ctt gca tac att gat tat ggc agt att ttc ata tac tac tcg   240
Glu Trp Leu Ala Tyr Ile Asp Tyr Gly Ser Ile Phe Ile Tyr Tyr Ser
65                  70                  75                  80
gac tca gtg aag ggc cgc ttc acc atc tcc aga gac aac gcc aag aat   288
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
                85                  90                  95
tca ctc tat ctg caa atg aac agc ctg aga gcc gac gac acg gct ttt   336
Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Asp Asp Thr Ala Phe
            100                 105                 110
tat tac tgt acg acc cat aat tgg ggg gag tta act gac tac tgg ggc   384
Tyr Tyr Cys Thr Thr His Asn Trp Gly Glu Leu Thr Asp Tyr Trp Gly
        115                 120                 125
cag gga acc ctg gtc acc gtc tcc                                  408
Gln Gly Thr Leu Val Thr Val Ser
    130                 135
<210> SEQ ID NO: 6
<211> LENGTH: 421
<212> TYPE: DNA
<213> ORGANISM: Pan troglodytes
<220> FEATURE:
<221> NAME/KEY: CDS
<222> LOCATION: (1)...(421)
<400> SEQUENCE: 6
atg atg ggg tca acc gcc atc ctc gcc ctc ctc ctg gct gtt ctc caa    48
```

RAW SEQUENCE LISTING DATE: 12/03/2001
PATENT APPLICATION: US/09/905,243 TIME: 11:52:03

Input Set : N:\Crf3\RULE60\09905243.txt
Output Set: N:\CRF3\12032001\I905243.raw

```
Met Met Gly Ser Thr Ala Ile Leu Ala Leu Leu Leu Ala Val Leu Gln
 1               5                  10                  15
gga gtc tgt gca gag gtg cag ctg gtg cag tct gga gca gag gtg aaa  96
Gly Val Cys Ala Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys
            20                  25                  30
aag ccc ggg gag tct ctg aag atc tcc tgt aag ggc tct gga tac agt 144
Lys Pro Gly Glu Ser Leu Lys Ile Ser Cys Lys Gly Ser Gly Tyr Ser
        35                  40                  45
ttt acc aac tac tgg atg ggc tgg gtg tgc cag atg ccc ggg aaa ggc 192
Phe Thr Asn Tyr Trp Met Gly Trp Val Cys Gln Met Pro Gly Lys Gly
    50                  55                  60
ccg gag tgc atg ggg atc atc tat cct gat gac tct gat acc aga tac 240
Pro Glu Cys Met Gly Ile Ile Tyr Pro Asp Asp Ser Asp Thr Arg Tyr
65                  70                  75                  80
agc ccg tcc ttc caa ggc cag gtc acc atc tca gcc gac aag tcc atc 288
Ser Pro Ser Phe Gln Gly Gln Val Thr Ile Ser Ala Asp Lys Ser Ile
                85                  90                  95
agc acc gcc tac cta caa tgg agc aac ctg aag gcc tcg gac acc gcc 336
Ser Thr Ala Tyr Leu Gln Trp Ser Asn Leu Lys Ala Ser Asp Thr Ala
            100                 105                 110
ata tat tac tgt gcg aga tgt tat ggt tgg act act tgc gaa gct ttt 384
Ile Tyr Tyr Cys Ala Arg Cys Tyr Gly Trp Thr Thr Cys Glu Ala Phe
        115                 120                 125
gat atc tgg ggc caa ggg aca atg gtc acc gtc tct t                421
Asp Ile Trp Gly Gln Gly Thr Met Val Thr Val Ser
    130                 135                 140
<210> SEQ ID NO: 7
<211> LENGTH: 417
<212> TYPE: DNA
<213> ORGANISM: Pan troglodytes
<220> FEATURE:
<221> NAME/KEY: CDS
<222> LOCATION: (1)...(417)
<400> SEQUENCE: 7
 ttg tgg ttc ttc ctt ctc ctg gtg gca gct ccc aga tgg gtc ctg tcc  48
 Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp Val Leu Ser
 1               5                  10                  15
cag ctg cag ctg cag gag tcg ggc cca gga ctg gtg aag cct tca cag  96
Gln Leu Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
            20                  25                  30
acc ctg tcc ctc acc tgc act gtc tct ggt ggc tcc atc agc agt ggt 144
Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser Ser Gly
        35                  40                  45
agt tac tac tgg agt tgg atc cgg cag ccc gcc ggg aag cga ctg gag 192
Ser Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Ala Gly Lys Arg Leu Glu
    50                  55                  60
tgg att ggg tat att tat tat agt ggg agt acc tac tac aac cca tcc 240
Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser
65                  70                  75                  80
```

VERIFICATION SUMMARY DATE: 12/03/2001
PATENT APPLICATION: **US/09/905,243** TIME: 11:52:04

Input Set : **N:\Crf3\RULE60\09905243.txt**
Output Set: **N:\CRF3\12032001\I905243.raw**